

IUCAA'S SciPop CENTRE

Kabaad se jugaad: Toying on ideas to develop little Einsteins

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AN ORDINARY-looking tippy top made by sticking a neem stick in the base of a used badminton shuttlecock has very interesting physics behind it. The profound science behind this simple toy had even intrigued Nobel laureates Wolfgang and Niels Bohr way back in the 40s. So when Pune's Inter University Centre for Astronomy and Astrophysics (IUCAA)'s Science Popularisation (SciPop) centre made a basic version of this toy, it soon caught the attention of Chhattisgarh Chief Minister Raman Singh who tied up with the team to make science easy for the children here.

The team at IUCAA's SciPop centre has reached out to more than 3,000 teachers across 27 districts of Chhattisgarh from December 2016 to January 2017 and even made a short film *Million Makers of Chhattisgarh* to help replicate the model across different states. "The tippy top helped us demonstrate the principle of moment of inertia and centre of mass to the teachers who now admit it is easier to explain this concept to children," said Manish Jain, an IITian who found the toys made by Arvind Gupta, a toy inventor and populariser of science for kids, so fascinating that he left his job three years ago to join the SciPop centre. "Our *Kabaad Se Jugaad* science workshops are booked months in advance," Jain said.

The centre was set up 13 years ago under the guidance of noted astrophysicist Jayant Narlikar and had started as an effort to increase public awareness and understanding



of science and astronomy, Ashok Rupner, a science toy maker and project coordinator at the centre told *The Indian Express*. To get students genuinely interested in science and motivate them towards a research career, Arvind Gupta, who had developed simple toys from items thrown as trash, spent 10 years here to help illustrate science and design in a hands-on fashion.

"It's been such a fun journey. Ten years is a small spell at IUCAA. One can buy the best guides or go to the best tuition classes but good books on science are so rare that we were also able to get among the best ones and translate in Marathi," Gupta, who has retired now, said.

Demonstrating experiments was further done with basic home material. From simple projects for monitoring weather (making rain gauge), creating vibrating snakes,



In a bid to encourage experimenting and research abilities in children, various workshops and interactive sessions have been organised at the Science centre in IUCAA.

setting up a dynamic wave model from wooden stick, cycle spoke, plastic lids and beads to generating cricket-like sound with a bottle cap, rubber band, button and thread or then to show how an empty bottle starts to shake magically when it is kept face down in water, has had the centre's team occupied round-the-clock.

More than three lakh teachers, students and parents have visited the centre and 1,078 short science education with toys films made and dubbed in 20 languages. "We have received a response from 53 million people," Rupner said.

SciPop centre to help guide schools in setting up Atal Tinkering Labs

WHILE THE public outreach team starts preparing to welcome at least 10,000 visitors to IUCAA, including its SciPop Centre on national science day (February 28), it has also been avidly sought by schools to guide them in setting up Atal Tinkering Labs (ATLs). An initiative of the NITI Aayog, these labs have been planned to cultivate one million innovators. At least 500 such ATLs will come up in select schools in the country.

"The aim is to provide a workspace to young students to shape their ideas by hands on Do-It-Yourself (DIY) models. Young children will get a chance to work with tools to understand the concepts of STEM (Science, Technology, Engineering and Math) and the SciPop centre has already got calls from at least 10 schools to help guide their teachers and students," Rupner said.